

Scheme A



FIG. 1

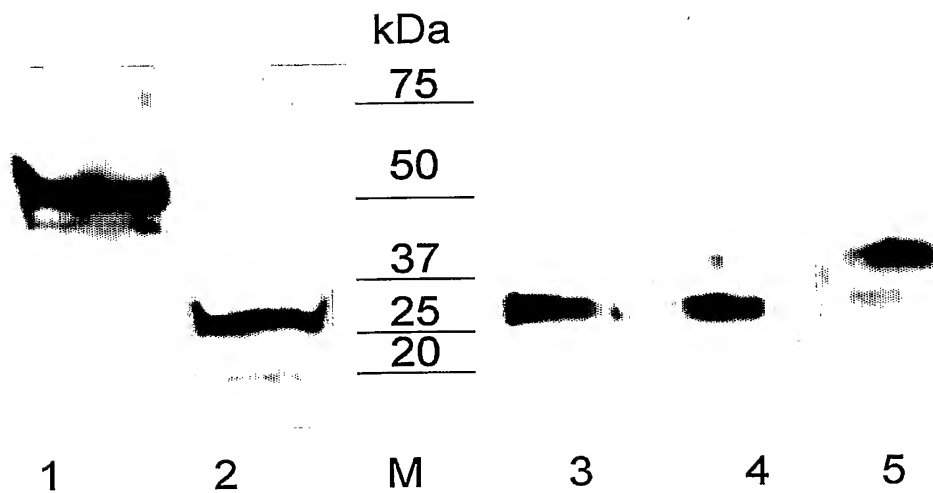
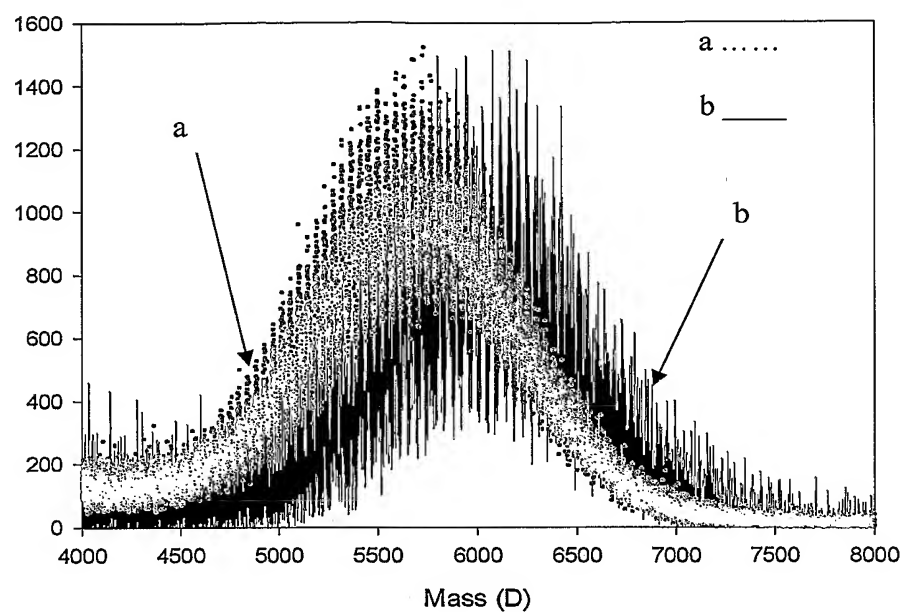
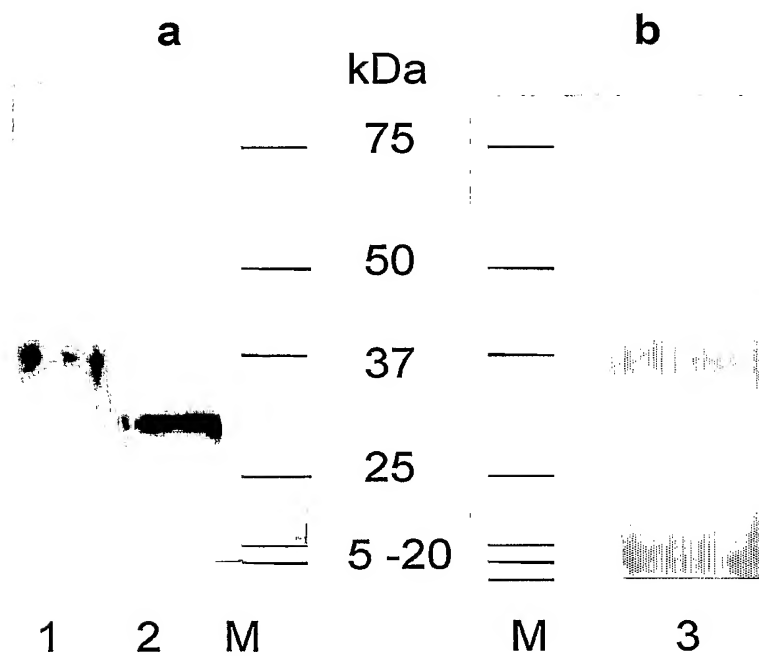
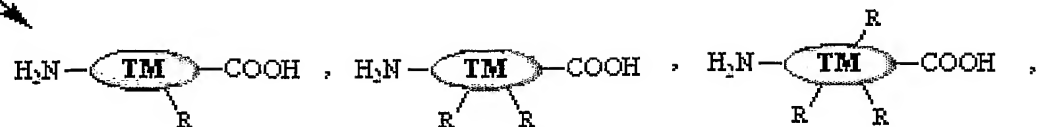


FIG. 2

**FIG. 3** (in color)**FIG. 4**

**Genetically Directed Synthesis  
using non-natural amino-acid :**



TM analogs containing NNAA

TM: Thrombomodulin analog capable of activating protein C

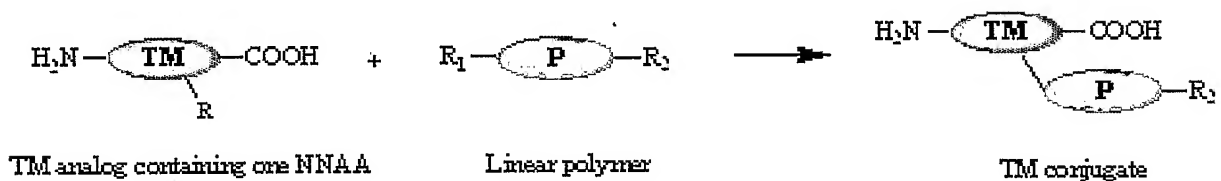
NH<sub>2</sub>: Amino group at the N-terminal of TM

COOH: Carboxylic acid group C-terminal of TM

NNAA: Non-Natural Amino Acid

R: Functional group of the non-natural amino acid ( N<sub>3</sub>, alkyl, diene, ....)

**Example of a Conjugation Reaction:**



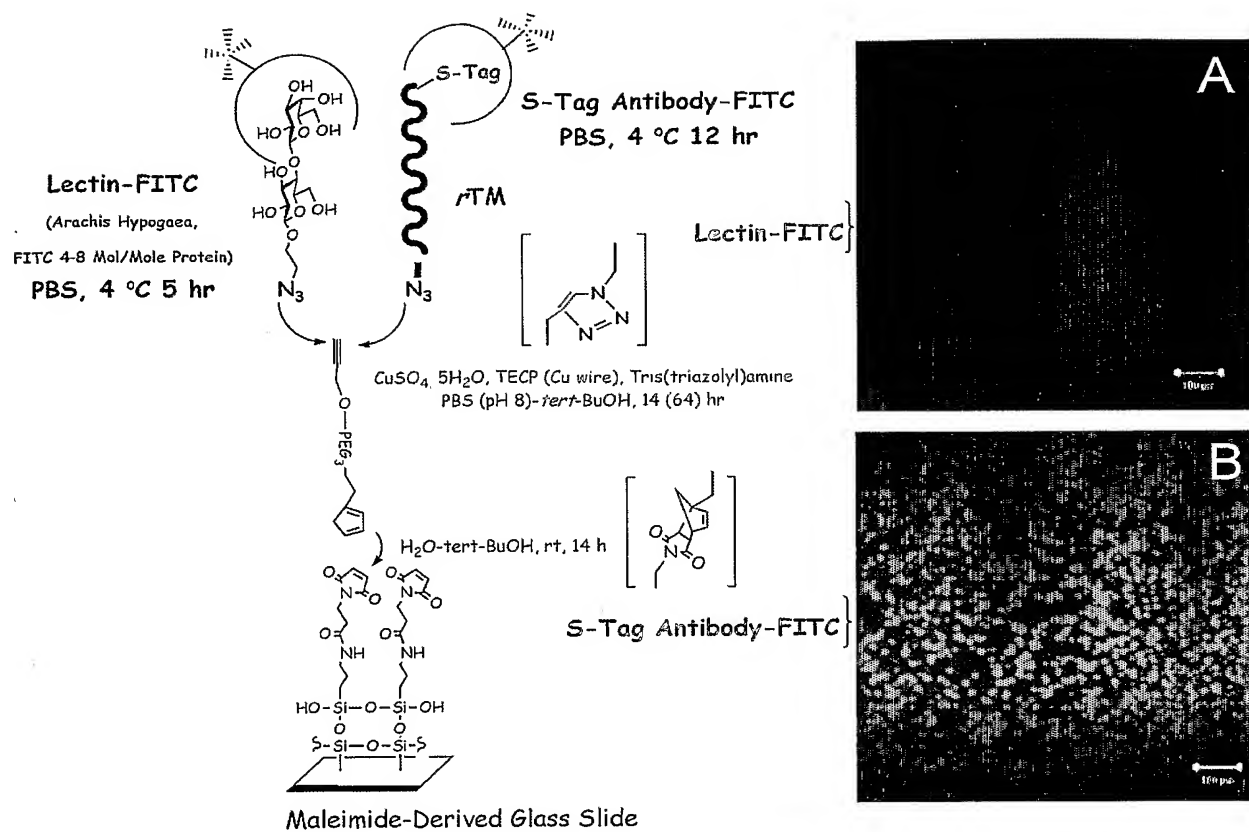
P: Linear or branched natural or synthetic polymers such as PEG, oligosaccharides, ...

R<sub>1</sub>: Alkyne, diene, , ...

R<sub>2</sub>: - Functional group for anchoring onto surface : alkyne, diene, biotin, ....

- Anti-inflammatory/anti-thrombotic groups such as heparin, sialic acid Lewis X, ....

**FIG. 5**



**FIG. 6** (in color)